

Appl. No. : 10/536,621
Filed : May 26, 2005

AMENDMENTS TO THE CLAIMS

Please amend the Claim Form and Claim as follows. Insertions are shown underlined while deletions are ~~struck through~~.

1 (currently amended): A polishing pad used in chemical mechanical polishing and having a polishing region and a light-transmitting region, said polishing pad having at least one of the following characteristics: i) light transmittance in the light-transmitting region throughout the wavelength range of 400 to 700 nm is 50% or more; ii) a thickness of the light-transmitting region is 0.5 to 4 mm, and light transmittance in the light-transmitting region throughout the wavelength range of 600 to 700 nm is 80% or more; or iii) the light-transmitting region is arranged between a central portion and a peripheral portion of the polishing pad, and a length (D) in a diametrical direction is 3 times or more longer than a length (L) in a circumferential direction, wherein a scatter of the thickness of the light-transmitting region is 100 μ m or less.

2 (previously presented): The polishing pad according to claim 1, wherein a rate of change of the light transmittance in the light-transmitting region in wavelengths of 400 to 700 nm represented by the following equation is 50% or less:

the rate of change (%) = {(maximum transmittance in 400 to 700 nm – minimum transmittance in 400 to 700 nm)/maximum transmittance in 400 to 700 nm} \times 100.

3 (previously presented): The polishing pad according to claim 1, wherein the light transmittance in the light-transmitting region at a wavelength of 400 nm is 50% or more, and the transmittance in the light-transmitting region throughout the wavelength range of 500 to 700 nm is 90% or more.

4 (previously presented): The polishing pad according to any one of claim 1, wherein a difference among respective light transmittances in the light-transmitting region in 500 to 700 nm is 5% or less.

5-6 (canceled)

7 (previously presented): The polishing pad according to claim 1, wherein a shape of the light-transmitting region is rectangular.

8 (previously presented): The polishing pad according to claim 1, wherein a length (D) in a diametrical direction is 1/4 to 1/2 relative to a diameter of a material to be polished.

9 (canceled)

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10 (previously presented): The polishing pad according to claim 1, wherein materials for forming the polishing region and the light-transmitting region are polyurethane resin.

11 (original): The polishing pad according to claim 10, wherein the polyurethane resin as the material for forming the polishing region and the polyurethane resin as the material for forming the light-transmitting region comprise the same kinds of organic isocyanate, polyol and chain extender.

12 (currently amended): TheA polishing pad according to claim 1 used in chemical mechanical polishing and having a polishing region and a light-transmitting region, said polishing pad having at least one of the following characteristics: i) light transmittance in the light-transmitting region throughout the wavelength range of 400 to 700 nm is 50% or more; ii) a thickness of the light-transmitting region is 0.5 to 4 mm, and light transmittance in the light-transmitting region throughout the wavelength range of 600 to 700 nm is 80% or more; or iii) the light-transmitting region is arranged between a central portion and a peripheral portion of the polishing pad, and a length (D) in a diametrical direction is 3 times or more longer than a length (L) in a circumferential direction, wherein a material for forming the light-transmitting region is non-foam.

13 (previously presented): The polishing pad according to claim 1, which does not have an uneven structure for retaining and renewing an abrasive liquid on a surface of the light-transmitting region on a polishing side.

14 (previously presented): The polishing pad according to claim 1, wherein a material for forming the polishing region is fine-cell foam.

15 (previously presented): The polishing pad according to claim 1, wherein a surface of the polishing region on a polishing side is provided with grooves.

16 (previously presented): The polishing pad according to claim 14, wherein an average cell diameter of the fine-cell foam is 70 μm or less.

17 (previously presented): The polishing pad according to claim 14, wherein a specific gravity of the fine-cell foam is 0.5 to 1.0 g/cm^3 .

18 (previously presented): The polishing pad according to claim 14, wherein a hardness of the fine-cell foam is 45 to 65° in terms of Asker D hardness.

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19 (previously presented): The polishing pad according to claim 14, wherein a compressibility of the fine-cell foam is 0.5 to 5.0%.

20 (currently amended): ~~The~~A polishing pad according to claim 14 used in chemical mechanical polishing and having a polishing region and a light-transmitting region, said polishing pad having at least one of the following characteristics: i) light transmittance in the light-transmitting region throughout the wavelength range of 400 to 700 nm is 50% or more; ii) a thickness of the light-transmitting region is 0.5 to 4 mm, and light transmittance in the light-transmitting region throughout the wavelength range of 600 to 700 nm is 80% or more; or iii) the light-transmitting region is arranged between a central portion and a peripheral portion of the polishing pad, and a length (D) in a diametrical direction is 3 times or more longer than a length (L) in a circumferential direction, wherein a material for forming the polishing region is fine-cell foam, wherein a compression recovery of the fine-cell foam is 50 to 100%.

21 (previously presented): The polishing pad according to claim 14, wherein a storage elastic modulus of the fine-cell foam at 40°C at 1 Hz is 200 MPa or more.

22 (withdrawn): A method of producing a semiconductor device, which comprises a step of polishing a surface of a semiconductor wafer with the polishing pad recited in claim 1.